OPTICAL GIMBAL MECHANISM FOR USE AT 4.2 K, R.G. Chave, Jet Propulsion Laboratory, Pasadena, CA 91109 - A two axis optical gimbal mechanism for aligning 1 meter diameter telescope primaries and test flat mirrors at temperatures from 300 to 4.2 K is being constructed for use in the Cryogenic Telescope Test Facility (CTTF). This mechanism consists of dichronited lead screws with external drive motors. The mechanism provides sub arc second resolution in either axis, while limiting the heat leak to less than 100 m W at 4.2 K. Linear variable differential transformers (LVDTs) are used at temperatures from 300 to 4.2 K to measure a home position. The CTTF will be on line in early 1995 for its first user, the Infrared Telescope Technology Testbed (ITIT), for the Space Infrared Telescope Facility (SIRTF), at JPL. The design and performance of this mechanism will be presented.

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